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BY FAX (11 PAGES)

Turin, February 02, 2006

Our ref. : E-3061/05

For the attention of the Primary Examiner WESTLAND P.

Dear Sirs,

RE: International Application No. PCT/IB2005/000309 in the name of TEK S.R.L.

With reference to the above application and in reply to the Written Opinion dated June, 06 2005, and to the invitation of January, 10 2006, an amendment according to Art. 34(2) (b) and Rule 66.1 (b) PCT is submitted by the applicant; please find enclosed herewith an amended claim 1 to replace the original one. Other dependent claims are unamended except reference numerals in claim 6. Furthermore, in the demand it was indicated that examination should start on the basis of the claims. Contrary to this indication, please find enclosed revised pages of the description (3, 3a, 4, 5) and of the drawings (2/4).

Amended page 5 of the description contains the specification that container 3 comprises the a lateral wall 15a and a threaded portion 16, as is clearly and unambiguously derivable from fig. 2. Page 2/4 of the drawings has been amended to add a reference number to the lateral wall of container 3.

The Examiner's remarks have been taken in due consideration and the amended page of the description and the amended claim 1 are believed to better distinguish the invention over the cited prior art.

Amended claim 1 is supported clearly and unambiguously by figures 1, 2, and 4.

WO03/004328 (D1) is acknowledged as the closest prior art and discloses an inflating and sealing tyre unit comprising a flat box housing a compressor unit, a container 4 for a sealing agent and a connection 18 defined by box 1 and fluidly connected to the compressor unit. Container 4 is sealed by a membrane and, when the inflating unit is used

for mending a tyre, container 4 is screwed overhanging in connection 18 and a sharp edge 24 tears the sealing membrane of container 4 itself allowing the compressor to pressurize the sealing agent and to deliver it into the tyre.

D1 teaches to connect container 4 overhanging from flat box 1. D1 does not teach or hint to provide box 1 with a seat to shield the lateral wall of container 1 and therefore amended claim 1 is new.

Amended claim 1 differs from D1 in that the casing of the compressor unit defines a seat shielding a lateral wall of the container.

The problem posed with regard to D1 is that an overhanging container is not suitable for a ready-to-use kit.

In a ready-to-use kit, the container of sealing agent is permanently and stably connected both in a mechanical and in a fluid way to the casing and is disconnected exclusively because the sealing agent passed its expiration date or because the container is empty after use. As stated on page 10 lines 25-28, a ready to use kit needs the fewest operations possible to function, e.g. put the plug in the electrical socket, screw the hose on the tyre and switch on the compressor.

A ready to use kit is highly preferred by the market because it can be used by anybody, including non-technically experienced people in any situation, e.g. at night-time in an unilluminated area when it is difficult to mount correctly the container on the casing and spending time in the process may be uncomfortable and unsafe.

A ready to use kit can be stored in the trunk of a vehicle and thus is normally subjected to accidental shocks stressing the neck and the connecting portion of the casing. Therefore, an overhanging container would easily break either at the neck or at the connecting portion and would have a low reliability.

On the contrary, seat 7 shields lateral wall 15a of container 3 and defines a compact shape of the kit as a whole. Therefore it defines a protection for container 3 against shocks stressing the neck region and the container can be permanently and reliably connected to the casing to constitute a ready-to-use kit.

Therefore, it is considered that amended claim 1 involves an inventive step too.

D1, reflecting the closest prior art, has been acknowledged in the introductory part of the description.

On the grounds of the above amendments, we believe that the international application should now be in compliance with the PCT provisions and hope that a positive international preliminary examination report may be established.

Yours faithfully,

Luigi Franzolin

Encl.

* See amended page 3a

The container and the compressor are normally separate parts that must be connected prior to use, and which at most are housed for convenience inside the same holder.

This therefore involves additional work prior to use.

In one known solution, the container is fitted permanently to the dispenser unit, which incorporates a sealing device. The container, in itself open, is therefore undetachable from the dispenser unit.

Another drawback of this solution is that, when the use-by date of the sealing liquid expires, both the container and the dispenser unit must be replaced, thus increasing cost.

In another known solution, the container itself is sealed, e.g. by a sealing membrane, which is split when the container is fitted to the dispenser unit. This means also the dispenser unit must be fitted to the container just prior to use, thus making additional work. *

~~DISCLOSURE OF INVENTION~~

It is an object of the present invention to provide a kit for repairing and inflating inflatable articles, designed to eliminate the aforementioned drawbacks typically associated with known kits.

According to the present invention, there is provided a kit for inflating and repairing inflatable articles, in particular, tyres; the kit comprising a compressor assembly, a container of sealing liquid, and

WO-A1-03004328 discloses an inflating and sealing tyre unit comprising a flat box housing a compressor unit, a container for a sealing agent and a connection defined by the flat box and fluidly connected to the compressor unit. Usually the container is disconnected from the connection but, when the inflating unit is used for mending a tyre, the container is screwed overhanging in the connection and a sharp edge tears a sealing membrane of the container itself allowing the compressor to pressurize the sealing agent and to deliver it into the tyre.

However, an overhanging container is unsuitable for kits where the container is permanently and stably connected to the connection because it can be easily damaged by accidental shocks.

DISCLOSURE OF INVENTION

It is an object of the present invention to provide a kit for repairing and inflating inflatable articles, designed to eliminate the aforementioned drawbacks typically associated with known kits.

According to the present invention, there is provided a kit for inflating and repairing inflatable articles, in particular, tyres according to claim 1.

connecting means for connecting the container to the compressor assembly and to an inflatable article for repair or inflation, and being characterized by comprising an outer casing housing said compressor assembly and defining a seat for the container of sealing liquid, said container being housed removably in said seat, and by comprising connecting means for stably connecting said container to said compressor assembly, so that the container, when housed in said seat, is maintained functionally connected to said compressor assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred, non-limiting embodiment of the present invention will be described by way of example with reference to the accompanying drawings, in which:

Figure 1 shows a view in perspective of a repair kit comprising a container of sealing liquid and in accordance with the present invention;

Figure 2 shows a partly disassembled view in perspective of the Figure 1 kit;

Figures 3 and 4 show a rear view and underside view in perspective respectively of the Figure 1 kit partly disassembled;

Figures 5 and 6 show sections, along line V-V in Figure 2, of the container and a dispenser unit of the Figure 2 kit assembled together;

Figure 7 shows a schematic of a pneumatic circuit connected to the Figure 2 kit dispenser unit.

BEST MODE FOR CARRYING OUT THE INVENTION

Number 1 in Figures 1 to 4 indicates as a whole a kit for fast repair of inflatable articles, in particular, tyres.

Kit 1 substantially comprises an electric compressor assembly 2; a container 3 of sealing liquid; a first hose 4 connecting container 3 to compressor assembly 2; and a second hose 5 connecting container 3 to a valve (not shown) of the tyre.

In known manner not shown, compressor assembly 2 comprises an electric motor and a compressor - powered by the electric motor - which are housed inside an outer casing 6.

Casing 6 is substantially parallelepiped-shaped and, at one longitudinal end, defines a seat 7 for housing container 3 upside down. More specifically, seat 7 is bounded laterally by a substantially semicylindrical end wall 10 of casing 6, and at the bottom by a circular base 14 projecting from end wall 10.

Container 3 comprises a vessel 15, preferably in the form of a bottle, containing the sealing liquid and having an externally threaded neck 16 defining an opening 17 (Figures 5 and 6); and a valve device 18 housed in opening 17. Valve device 18 forms an integral part of container 3, to ensure the container is closed fluidtight when detached from the rest of kit 1, as explained in detail below.

Valve device 18 comprises a body 19 having a

* lateral wall 15a and

CLAIMS

1) A kit for inflating and repairing inflatable articles, in particular, tyres; the kit comprising a compressor assembly (2), a container (3) of sealing liquid, and connecting means (4, 5) for connecting the container to the compressor assembly (2) and to an inflatable article for repair or inflation, an outer casing (6) housing said compressor assembly (2) and releasable connecting means (4, 40) for stably connecting said container to said compressor assembly (2), so that the container, when housed in said seat (7), is maintained functionally connected to said compressor assembly (2), said kit being characterized in that said outer casing (6) defines a seat (7) shielding a lateral wall (15a) of said container (3) of sealing liquid, said container (3) being housed removably in said seat (7).

2) A kit as claimed in Claim 1, characterized in that said connecting means comprise a compressed-air feed line (4) for feeding compressed air from said compressor assembly (2) to said container (3); said container (3) comprising a vessel (15) having an opening (17), and a valve device (18) fitted in fluidtight manner to the opening (17) and having an

inlet (27c) connectable to said compressed-air feed line (4), and an outlet (29a) for the sealing liquid.

3) A kit as claimed in Claim 2, characterized in that said valve device (18) comprises at least one control member (30) movable, in response to pressurization of said compressed-air feed line (4), from a closed position, closing said valve device (18) and in which said inlet (27c) and said outlet (29a) are isolated from the inside of said container (3), to an open position in which said inlet (27c) and said outlet (29a) communicate with the inside of said container (3).

4) A kit as claimed in Claim 3, characterized in that said valve device (18) comprises elastic means (31) for keeping said control member (30) stably in said closed position in the absence of pressure to said inlet (27c).

5) A kit as claimed in one of the preceding Claims, characterized by comprising a dispenser unit (40) detachably connectable to said container (3) and having an inlet fitting (53) connected in fluidtight manner to said inlet (27c) of said valve device (18), and an outlet fitting (50) connected in fluidtight manner to said outlet (29a) of said valve device (18).

6) A kit as claimed in Claim 5, characterized in that said dispenser unit (40) is detachable from said casing (6).

7) A kit as claimed in Claim 6, characterized in that said seat (7) comprises a base portion (14) having fast-fit fastening means (49) by which to secure said dispenser unit (40) to said casing (6).

8) A kit as claimed in Claim 7, characterized in that said fastening means (49) comprise a bayonet connection.

9) A kit as claimed in one of Claims 5 to 8, characterized in that said dispenser unit (40) comprises a cavity (48) to which is fitted a neck (16) of said container (3) in an upside down position; said neck (16) defining said opening (17).

10) A kit as claimed in any one of the preceding Claims, characterized by comprising an additional hose (83) cooperating with said inflatable article; and a three-way valve (81) input connected to said compressor assembly (2), and output connected to said container (3) and to said additional hose (83) to direct a stream of compressed air selectively to said container (3) or to said additional hose (83).

11) A kit as claimed in Claim 9, characterized in that said three-way valve (81) is controlled by a

selector (85) which can be set to a disabling position, in which operation of said compressor assembly (2) is disabled; to a first enabling position, in which operation of said compressor assembly (2) is enabled, and said container (3) is connected fluidically to said compressor assembly (2); and to a second enabling position, in which operation of said compressor assembly (2) is enabled, and said additional hose (83) is connected fluidically to said compressor assembly (2).

12) A kit as claimed in any one of the preceding Claims, characterized in that at least one of said connecting means (4) and said additional hose (83) is connected to a relief valve (87).

13) A kit as claimed in any one of the preceding Claims, characterized in that said connecting means (5) comprise a non-return valve.

14) A kit as claimed in Claim 7, characterized in that said fastening means comprise a fast-fit click-on coupling.

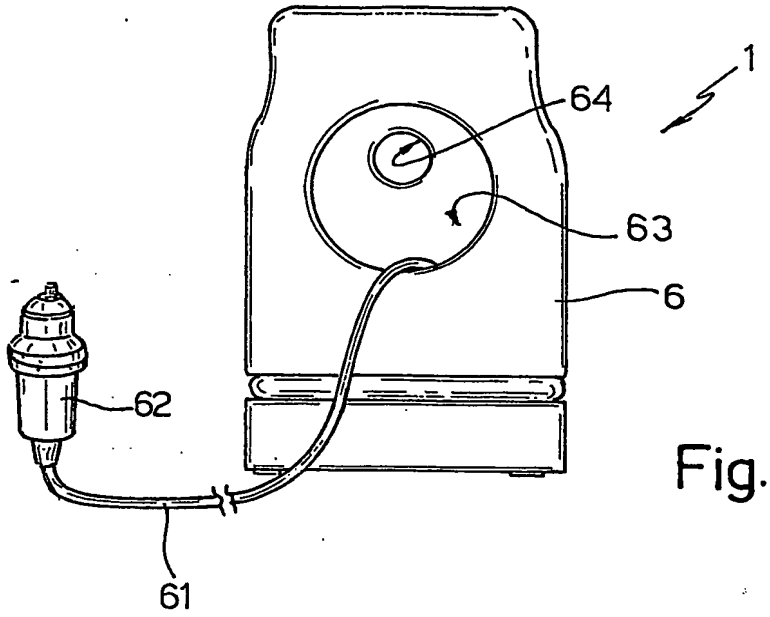

Fig.3

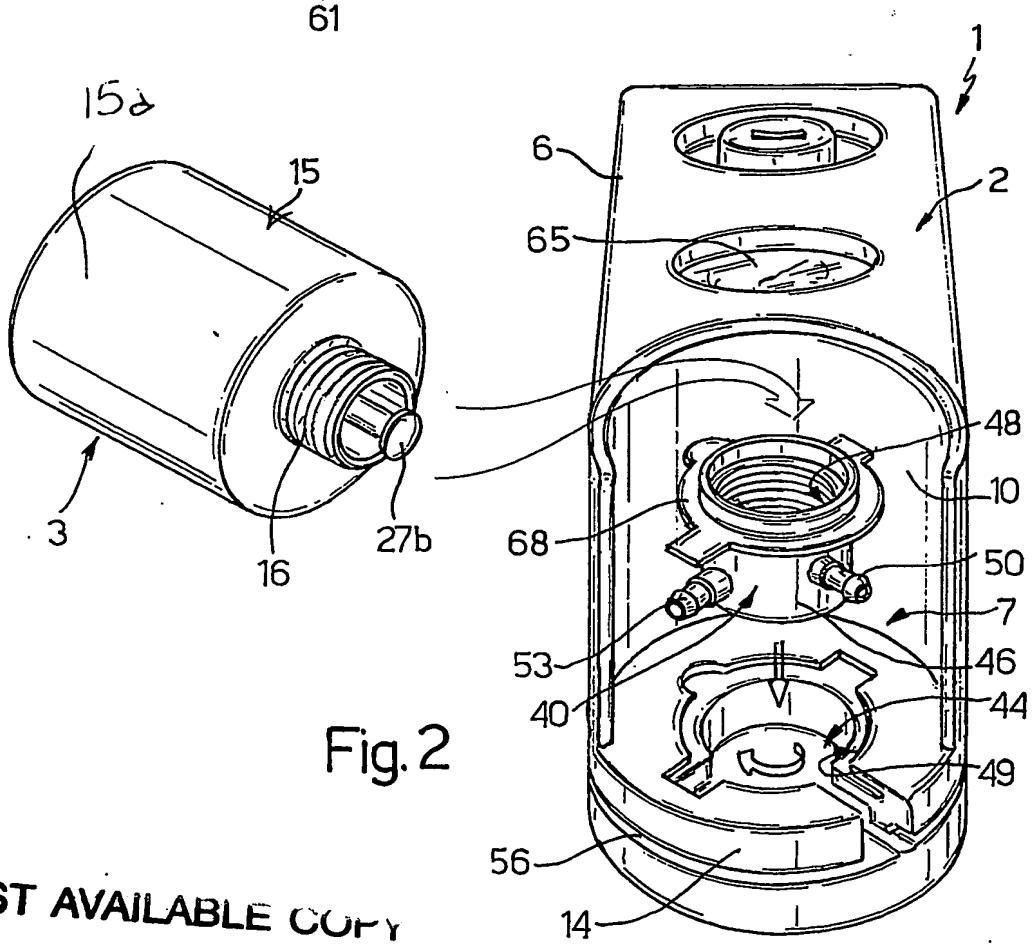

Fig.2